CALIFORNIA WATER CODE TECHNICAL REPORT

Optima Conservation Resources Exploration, LLC
Independent Crude Oil Production Company
Chino Hills, San Bernardino County, California 91709

Submitted:
February 4, 2016

GENERAL INFORMATION

For compliance with the California Water Code Section 13267, this document lists the general requirements for the investigative order R4-2016-0023 to provide a report on the disposal of fluids associated with oil and gas production operations. This report is intended for the appropriate entity of the California Regional Water Quality Control Board tasked with the protection of ground and surface water quality and to be in accordance with state and local regulations.

Company Name
Optima Conservation Resources Exploration, LLC (a.k.a. *OCRE*)

General Description
Onshore Crude Oil Production
Standard Industrial Classification 1311
Petroleum Operations

Leases
Abacherli Lease
Franco-Langstaff Lease

Operator Point of Contact Information
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Geographic Location and Association with Waterways and Urban Areas
The OCRE lease facility in Chino Hills is not located in any significant proximity to neither any bodies of freshwater nor any waterways; there are no significant rivers, lakes, tributaries or beaches located within the adjacent surrounding areas. The Abacherli and Franco-Langstaff leases are adjacent to each other and both are directly connected to the outskirts of the Chino Hills state park. A single dirt road of approximately one mile in length connects the leases, the Abacherli section to the north and the Franco-Langstaff section to the immediate south. The Franco-Langstaff (a.k.a. *Langstaff*) lease does not have direct access to any urban nor suburban areas; the Abacherli lease does border a suburban residential neighborhood on its Northeastern side. The uninhabited and rural lands of the state park surround the Northwestern, Western and Southern sides of both leases. The facility is located on private lands where the operating company (OCRE) maintains a strong positive relationship with the landowners and third-party lessees.

Description of Operations

The facility production rate currently ranges between 5-25 bbl of crude oil per day and between 0-8 bbl of water per day (with an annual average of around 4.5bbl/day). The total number of *Stripper* oil wells in the facility is 14 plus 1 idle well. The Langstaff lease presently contains 1 actively producing well and 1 idle well and the Abacherli lease presently contains 13 actively producing wells. Each lease and all of its components (including oil wells, tanks, valves, pipelines and evaporation pond) are illustrated in the following figures: the Abacherli lease is included in Figure 1 and the Langstaff lease is included in Figure 2.

Water and oil (i.e. 'produced fluids') are pumped from the active wells through the production flowline and into the storage tanks where the free water knockout system completely separates the water from the oil. Produced fluids first enter the wash tank where free water settles to the bottom, oil accumulates at the top and is skimmed into the stock tank. In the stock tank, skimmed oil is tested for Basic Sediment and Water (BS&W) to ensure content is below the acceptable threshold and directly transported into the shipment tankers. The separated water moves into the clarifiers (leak-free metal containers) where it is then pumped into the lined sumps and evaporated. Each lease contains its corresponding pair of clarifiers and evaporation pond.

Pressures at the wellheads are recorded and tank fluid levels are gauged on a daily basis. In addition as part of regular field maintenance all wells/tanks/valves/pipelines are inspected on a daily basis for any leaks or spills and field equipment is also inspected and upgraded as needed to ensure proper field infrastructure. Pressures recorded from gauges on the pipelines help monitor any leaks within the production system. Operators also inspect potential drainage courses, roads, ditches, clarifiers and sumps for evidence of oil leaks. Operators and associated personnel receive adequate training to ensure safe operations and proper preparation in case of emergency situations. The facility is operated and attended 24 hours per day. OCRE and its contractors are committed to the preservation of the environment.

PREVIOUS SPILLS

No spills have occurred on site at any of the aforementioned leases, therefore no spill history can be included. In addition there has never been a case of oil reaching any of the evaporation sumps. In the unlikely case of a spill, the event(s) will be recorded in the following table

Table I

Spill History

Incident Date	Incident Location	Released Oil (bbl)	Released Water (bbl)	Cause
N/A				

Figure I
Abacherli Lease Map

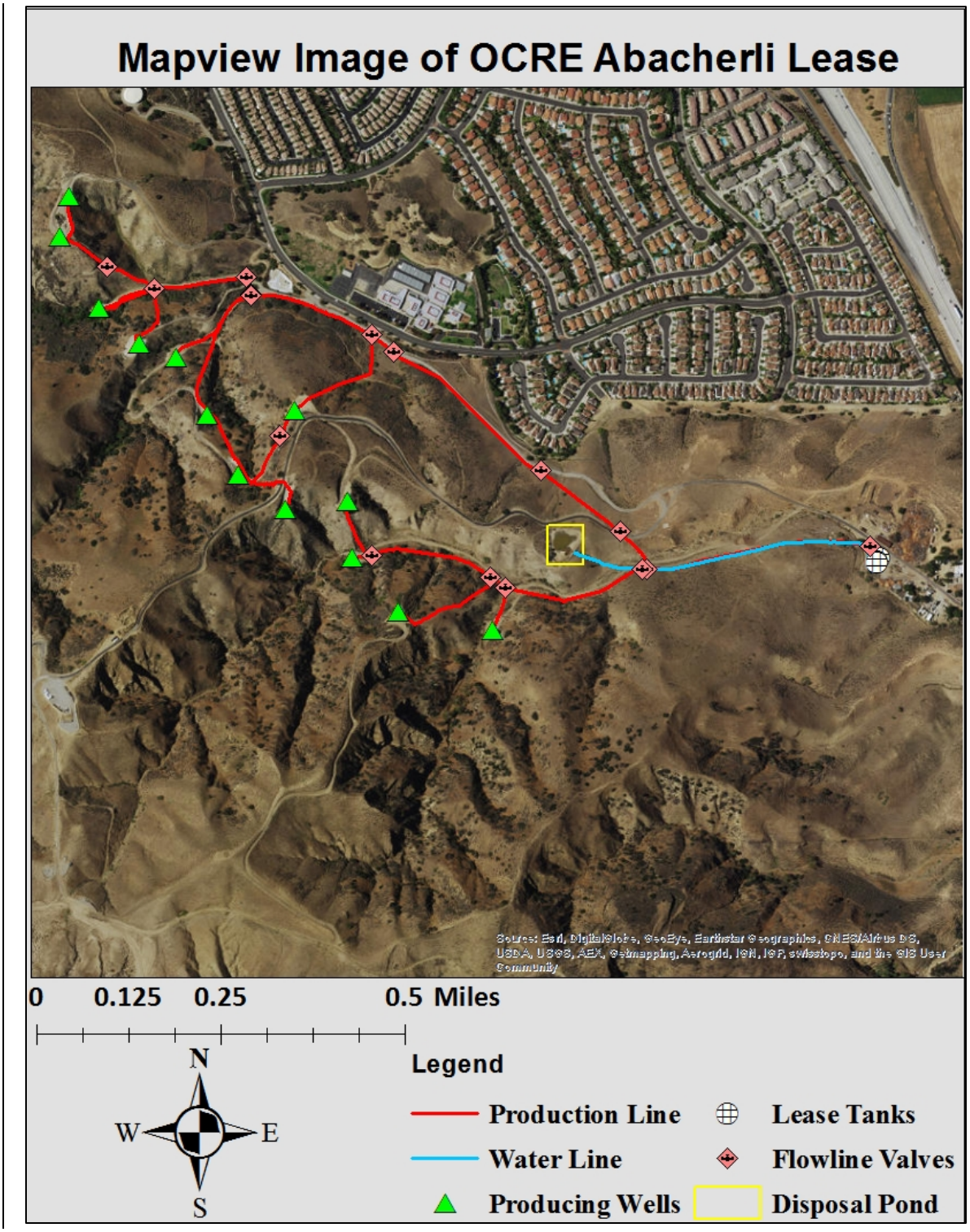
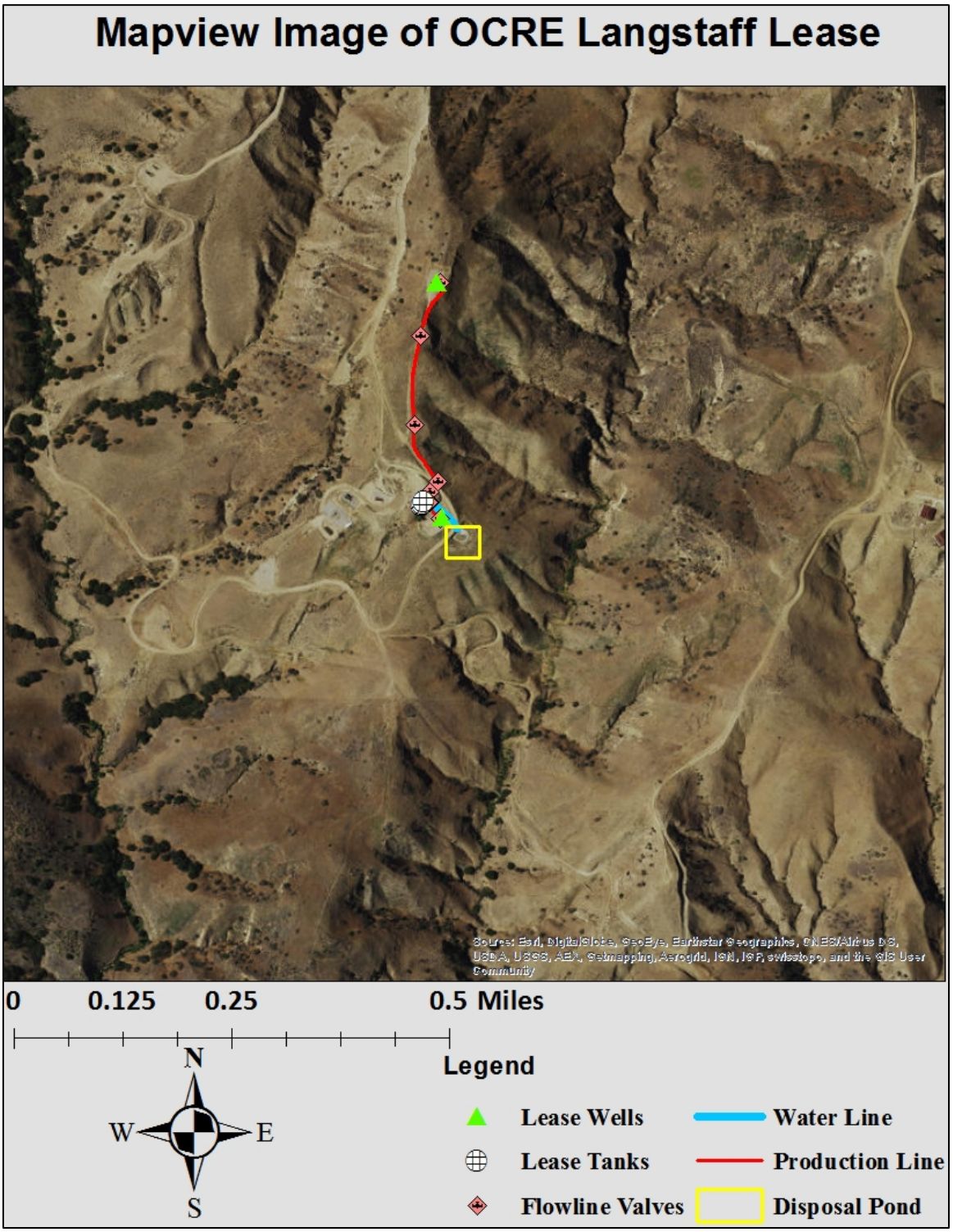


Figure II
Langstaff Lease Map (Northern Well = Idle Well, Southern Well = Active Well)



Discussion

The locations of the two evaporation ponds (i.e. sumps), one for each lease, are shown in figures 1 and 2. Both of the sumps are currently active and in use. The two sumps are lined with sodium bentonite clay that serves as a barrier with ultralow permeability. The estimated total annual amount of produced water previously evaporated from the sumps ranges from 1,000 bbl to 1,800 bbl with a probable average hovering around 1,550 bbl. The estimated annual amount of produced water going forward expected to be released into the lined sumps and evaporated is 1,700 bbl/year more or less. The disposed fluid is strictly only water, there is no other fluid associated with production operations that is being discharged or has ever been discharged into the sumps. Furthermore there have been no drilling/fracking or any other field operations that use any other material besides H_2O. The waters produced are moderately low in salinity with salt concentrations between 3,000 ppm to 8,000 ppm. The produced waters from both the Abacherli and the Langstaff leases contain an average salinity of 5,750 ppm measured as the Total Dissolved Solids (TDS). Appendix I and II display the chemical composition of the water produced for the Abacherli and the Langstaff lease respectively.

Note: Appendix I and Appendix II are the laboratory results from chemical analyses performed by a third-party contractor specializing in analytical testing. Neither of the two active sumps contain, nor have ever contained in the past, any solidified waste. There are no domestic, municipal or commercial water wells or any sort of monitoring wells within a ½ mile radius of either sump nor anywhere near the vicinity of the leases. There is no past or current surveying, sampling, construction or any other type of data available for any nearby water wells or monitoring wells because of the nonexistence of said wells.

In addition to the written explanations, the maps and the analytical tables provided, the spreadsheet with the specific required information on each sump is also included as Appendix III in the technical report. It is the operator's responsibility and professional objective to fully comply with and adhere to implemented regulations and maintain a strong and transparent relationship with regulatory agencies while ensuring a safe and effective petroleum operation.

Statement

I, Diego Vasquez certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Diego A Vasquez

02/04/2016

Agent and Operator for Optima Conservation Resources Exploration, LLC

Geologist and GIS Specialist

Appendix I

Chemical Analysis – Produced Water Abacherli

GT Analytical Service, Inc.

CHEMICAL LABORATORY REPORT
CHEMICAL ANALYSIS OF WATER

DATE: February 17, 2012

TO: Alberto Vazquez
FROM: GT Analytical

SAMPLE SOURCE: **Abacherli #1**
DATE SAMPLED: 2/12/12
DATE RECEIVED: 2/13/12
DATE ANALYZED: 2/13/12 to 2/16/12
ANALYST: MT

pH (Lab):		7.07
Total Hardness (as $CaCO_3$):	mg/l	256
Calcium (as $CaCO_3$):	mg/l	145
Magnesium (as $CaCO_3$):	mg/l	111
Total Alkalinity (as $CaCO_3$): (Field)	mg/l	1,020
Chloride:	mg/l	2,700
Sulfate:	mg/l	ND
Boron:	mg/l	7
Conductivity (mmhos/cm @ 25 C):		9.02
Resistivity (ohm meter @ 25 C):		1.109
Specific Gravity @ 60 F:		0.9995
Silicon (AA):	mg/l	22.5
Silica (SiO2) by Calc.	mg/l	48.2
Barium (AA):	mg/l	0.3
Iron (AA):	mg/l	124.0

ND=Non Detected

RADICALS –

		ANIONS (meq/L)	(mg/L)
Bicarbonate	HCO_3	20.40	1244
Sulfate	SO_4	0.00	0
Chloride	Cl	76.16	2700
Borate	B_4O_7	0.33	26
	TOTAL	97	3,970

		CATIONS (meq/L)	(mg/L)
Calcium	Ca	2.90	58
Magnesium	Mg	2.22	27
Barium	Ba	0.00	0
Silicon	Si	0.80	23
Sodium	Na	90.97	2091
	TOTAL	96.90	2,199

Total Dissolved Solids (by calculation): **6,169**
Total Dissolved Solids (by evaporation): **5,500**

All results are expressed in mg/l where indicated.

Appendix II

Chemical Analysis – Produced Water Langstaff

GT Analytical Service, Inc.

CHEMICAL LABORATORY REPORT
CHEMICAL ANALYSIS OF WATER

DATE: February 17, 2012

TO: Alberto Vazquez
FROM: GT Analytical

SAMPLE SOURCE: **Abacherli FL#55**
DATE SAMPLED: 2/12/12
DATE RECEIVED: 2/13/12
DATE ANALYZED: 2/13/12 to 2/16/12
ANALYST: MT

pH (Lab):		7.12
Total Hardness (as $CaCO_3$):	**mg/l**	1,223
Calcium (as $CaCO_3$):	**mg/l**	661
Magnesium (as $CaCO_3$):	**mg/l**	562
Total Alkalinity (as $CaCO_3$): (Field)	**mg/l**	400
Chloride:	**mg/l**	2,195
Sulfate:	**mg/l**	2,300
Boron:	**mg/l**	< 1.0
Conductivity (mmhos/cm @ 25 C):		2.26
Resistivity (ohm meter @ 25 C):		2.257
Specific Gravity @ 60 F:		0.9989
Silicon (AA):	**mg/l**	41.3
Silica (SiO2) by Calc.	**mg/l**	88.4
Barium (AA):	**mg/l**	0.1
Iron (AA):	**mg/l**	17.7

ND=Non Detected

RADICALS –

		ANIONS (meq/L)	(mg/L)
Bicarbonate	$HC0_3$	8.00	488
Sulfate	SO_4	47.92	2300
Chloride	Cl	61.92	2195
Borate	B_4O_7	0.00	0
	TOTAL	118	4,983

		CATIONS (meq/L)	(mg/L)
Calcium	Ca	13.22	264
Magnesium	Mg	11.24	137
Barium	Ba	0.00	0
Silicon	Si	1.47	41
Sodium	Na	91.90	2113
	TOTAL	117.83	2,555

Total Dissolved Solids (by calculation): **7,538**
Total Dissolved Solids (by evaporation): **3,870**

All results are expressed in mg/l where indicated.

Appendix III

Specific Sump Information (Copied from Microsoft Excel Spreadsheet)

Appendix III - *Sump Information Spreadsheet*

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Owner and Operator	Field Name	County	Sump Name	Sump Location (Lat, Long)	Sump Volume (ft^3) (LxWxD)	Sump First Excavated	Years Sump Active	Volume Discharge Annual (bbl)	Fluid Composition	Sump Filled with Material?	When Sump Filled	Material Used to Fill	Solidified Waste?	What composition of Solid?
OCRE	Mahala	San Bernardino	Abacherli Sump	33.92242 -117.66394	175'x200'x5'	1981	35	1400	Water	Yes	1981	Bentonite Clay	No	N/A
OCRE	Mahala	San Bernardino	Langstaff Sump	33.90536 -117.67083	70'x75'x10'	1981	35	200	Water	Yes	1981	Bentonite Clay	No	N/A